



Natural Gas Vehicles for America

New Mexico

Transportation Infrastructure Revenue Subcommittee

November 3, 2015

Santa Fe, New Mexico



What is NGV America?

- *NGV America is the **national trade organization** dedicated to the **development of a growing, profitable, and sustainable market** for vehicles powered by natural gas or renewable natural gas.*
- *NGV America **represents the full value chain** of the industry including more than 200 companies, environmental and government organizations interested in the promotion and use of natural gas as a transportation fuel.*
- ***NGV America members** produce, distribute, and market natural gas and renewable natural gas across the country; manufacture and service natural gas vehicles, engines, and equipment; and operate fleets powered by **clean-burning gaseous fuels**.*

ups

Shell LNG

Clean Energy

anga
America's Natural Gas Alliance

encana

AGA
American Gas Association

SPECTRUM LNG
Natural gas for vehicles

QUESTAR
Fueling

DTE Energy

morris + associates
Build on Our Strengths

ONE Gas

Piedmont Natural Gas

Agility
fuel systems™

Westport

GE Oil & Gas

AGL Resources®

METROPOLITAN
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PSE
PUGET SOUND ENERGY

VECTREN
Live Smart

noble energy

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Sempra Energy
for every day life!

ATA

TENASKA

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RUSH
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ET
environmental
Vision • Solutions • Value™

Luxfer
Gas Cylinders

Kwik Trip
NATURAL GAS

WORTHINGTON
INDUSTRIES

DAIMLER TRUCKS

WMM
WASTE MANAGEMENT

FCA
FIAT CHRYSLER AUTOMOBILES

Laclede Gas

Blu.
good.
clean.
fuel.

TRILLIUM
CNG
Making CNG Work for You

Black Hills Energy
Improving life with energy

What's the Value Proposition?

Natural Gas as a Transportation Fuel

ECONOMICS

- Historically ~8:1 price advantage on Btu basis
- \$0.75 to \$1 lower at the pump than diesel
- Federal tax credit \$0.50 per gallon
- Less costly emissions control systems

ABUNDANCE

- U.S. is now number one NG producer in the world
- Shale gas revolution = decades of affordable reserves
- Shale gas basins provide increased access to NG
- Production will increase by 56% between 2012 & 2040

ENVIRONMENTAL BENEFITS

- 26-27% lower CO₂ emissions than petroleum fuels
- 15-23% lower GHG emissions on well to wheels basis
- 90% lower GHG emissions with RNG/bio-methane
- 95% lower NO_x emissions
- Lower particulate matter compared to diesel
- Quieter engines

ENERGY SECURITY

- Almost all NG used in the United States is produced in North America
- Exporting NG can bolster energy security of other countries
- Domestic reserves uniquely make the US energy independent

Low Oil Prices – They Do Not Last



Think Long Term

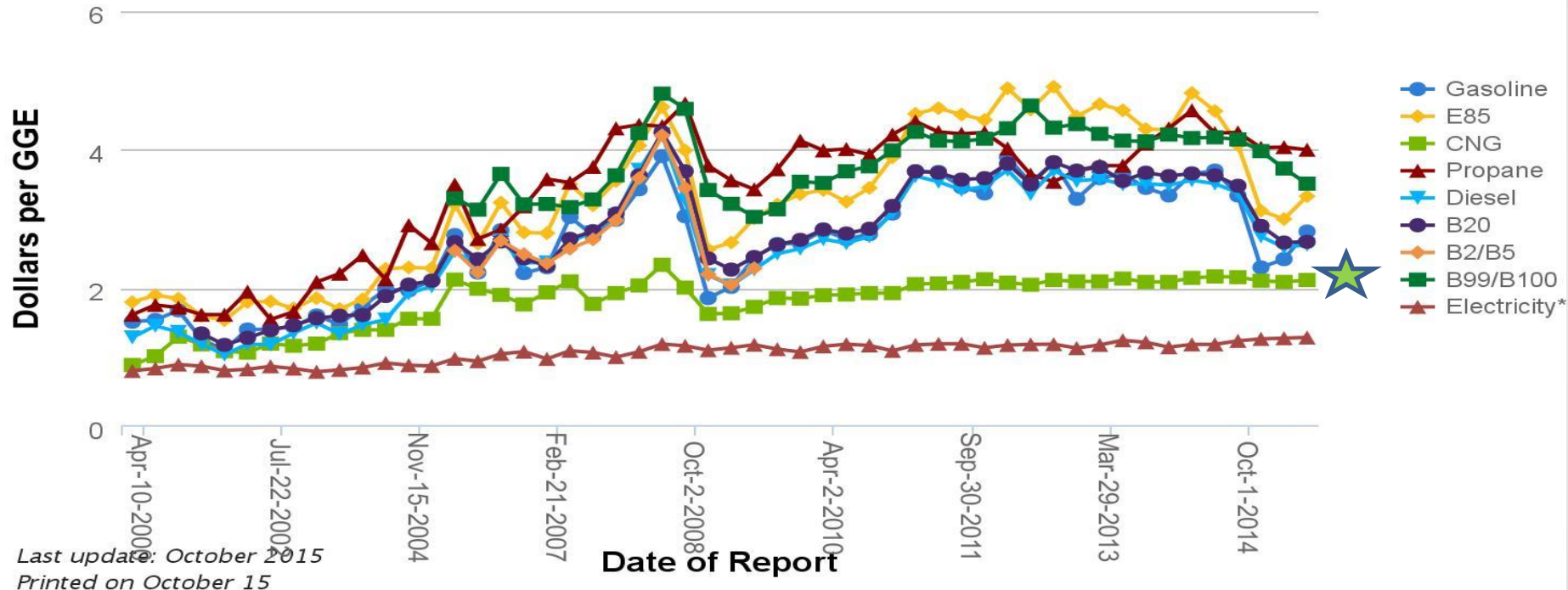
Oil has tanked before... but always returns to “normal.” Fleets are relatively long-term asset (5-10 years)

What does the future hold?

- US EIA (Oct 2015) projects inventory surpluses to slow by 4Q 2015; WTI crude to have a 2015 *average* of \$50/bbl and 2016 *average* of \$55/bbl (Brent ~\$4-5 higher)
- Supply disruptions could change this forecast **QUICKLY!**

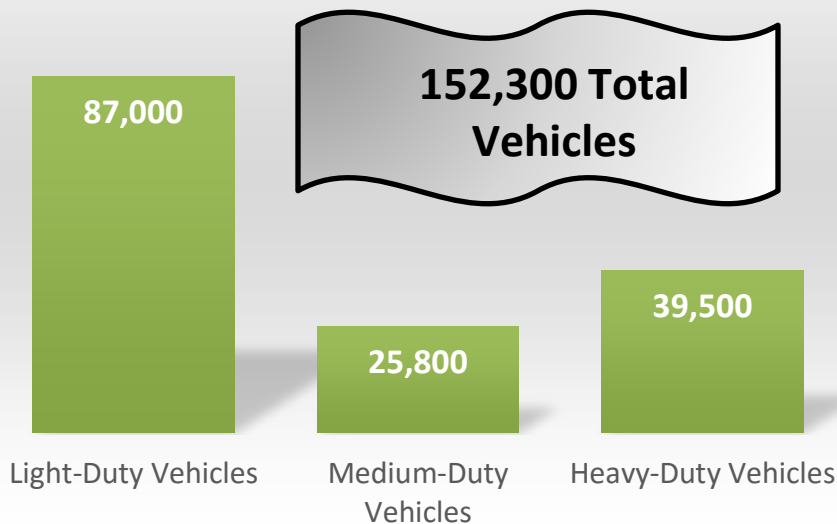
U.S. Dept. of Energy Fuel Prices (2000-Oct 2015)

Average Retail Fuel Prices in the U.S.



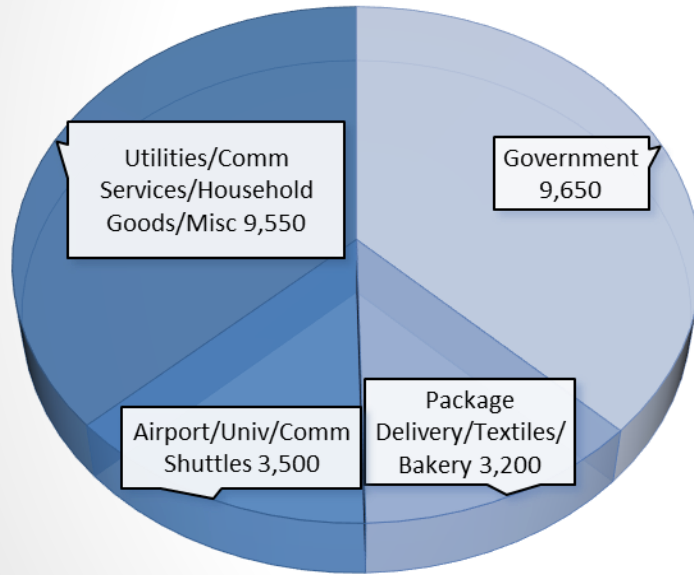
What's on the Road Today?

U.S. NGV Inventory by Light, Medium, and Heavy Duty Vehicles January 2015

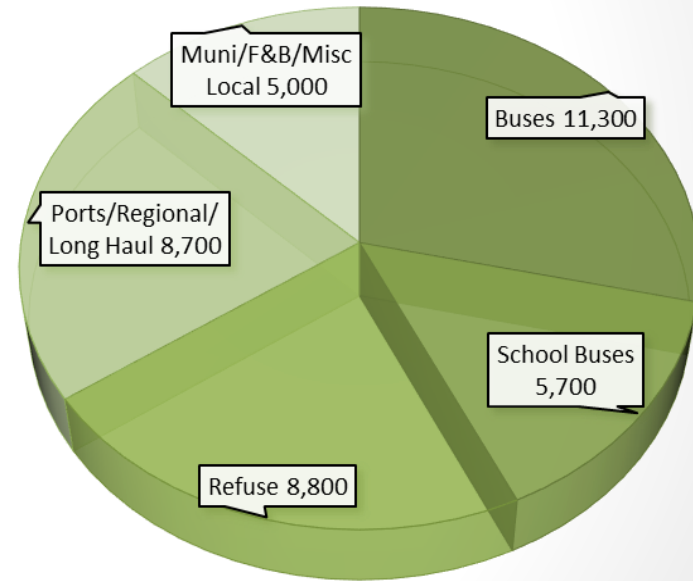


NGV Inventory by MD and HD Market Segments

MEDIUM DUTY - ~25,900



HEAVY DUTY - ~39,500



Refueling Infrastructure Growth

- **Over 1,950 stations (EIA: Oct 2015)**
 - Average of 10-15 new per month
- **Multiple Stakeholders**
 - Natural gas retail fuel sellers
 - Gas exploration & production
 - Leasing companies
 - LDCs
 - Traditional fuel retailers
 - C-Stores
 - Truck Stops
 - Grocery/Warehouse stores



"Orange County Inks Deal for 218 New Flyer CNG Buses"

"CNG Bus Fleet Extended in Albuquerque"

"Dean Foods to Deploy 64 CNG Vehicles and Clean Energy CNG Station"

"Chevrolet Silverado Chassis Cab Available with CNG Option"

"UPS to Build 15 CNG Stations to Support Additional 1,400 NGV's"

"Ford Unveils 2016 Gaseous Fuel F"

"Texas CNG, LNG Sales Increased 78% over FY 2014"

"World's First LNG-Powered Containership Launches for TOTE"

"Anheuser-Busch to Deploy 97 CNG Tractors in St. Louis"

"99 Cents Only Stores has Converted 75% of its Fleet from Diesel to CNG"

"DART to Rollout 63 Additional CNG Flyer Buses"

Cummins Westport Unveils ISB 6.7 G Natural Gas Engine"

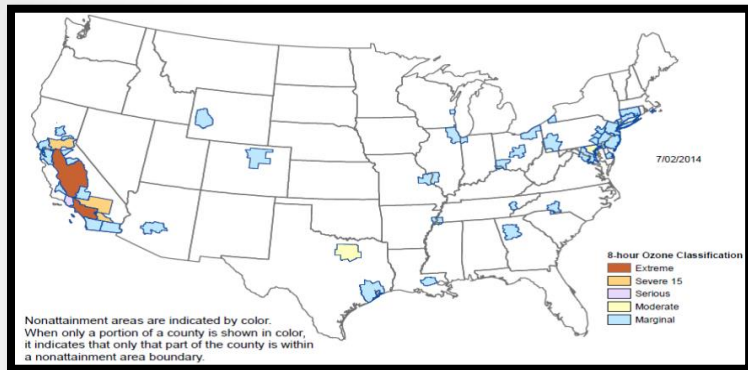
Washington Matters....



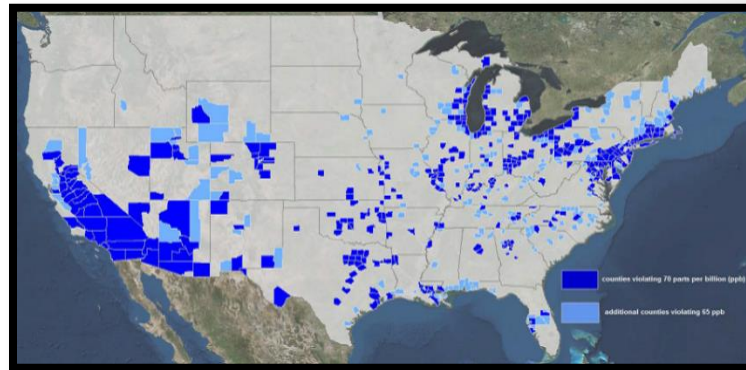
Federal Policies to Promote NGVs:

- **Fix the LNG diesel tax penalty – COMPLETED**
- **Fix inland waterway fuel tax for LNG**
- **Extension of the fuel & infrastructure tax credits**
- **Reduce the incremental FET on HD vehicles**
- **Weight waiver for HD trucks on federal roads**
- **Appropriations for NGV RD&D / Clean Cities**
- **Vehicle incentives for LD & HD**

Ozone Non-Attainment Areas to Expand



Source: U.S. EPA Green Book

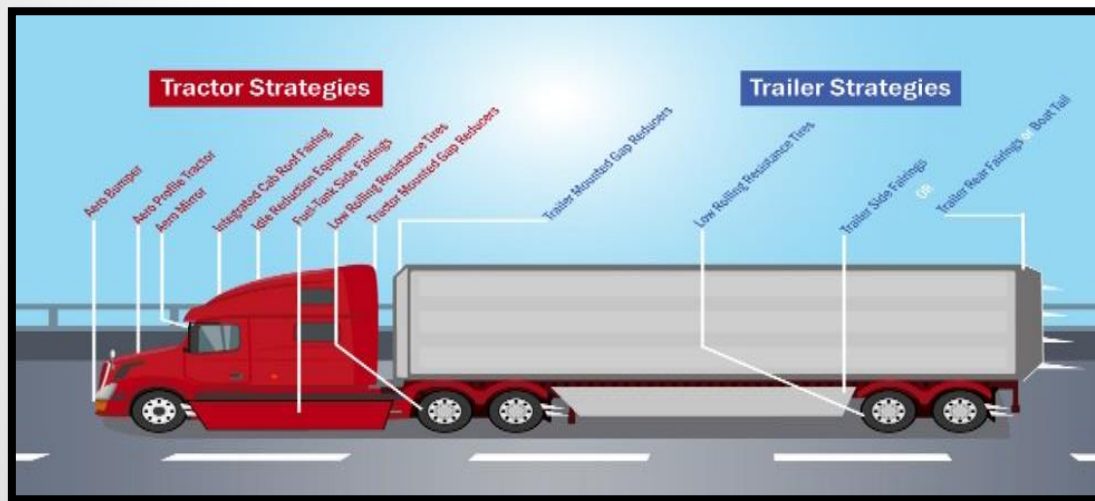


Source: U.S. EPA

- Ozone is a major factor driving transportation policy in key states (CA, NY, TX)
- EPA's new ozone standards mean significant expansion of non-attainment areas
- New rules increase pressure to reduce criteria pollutants (e.g. NO_x emissions)
- Natural gas offers the lowest NO_x emissions among transportation fuels

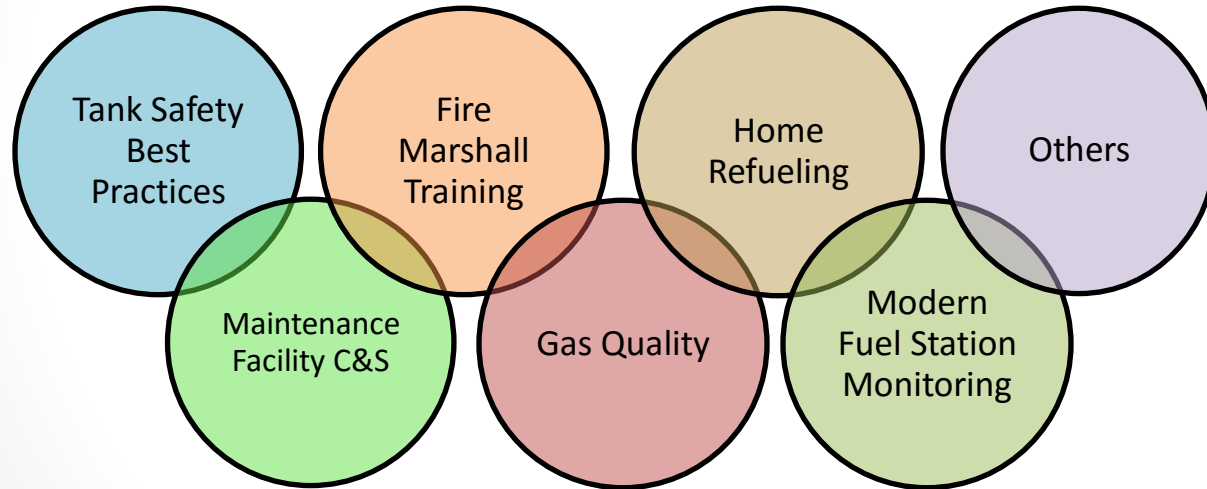
MD & HD GHG and Fuel Efficiency Standards

- Phase 2 Regulations released in June
- NPRM 629 pages – comments by Oct 1
- NGVs get a “fair shake”
- Although some issues still to be addressed



Technology, Codes, Standards & Best Practices

What are the industry's critical safety & technology issues?



The Road Ahead for NGVs...

What elements are needed to grow the NGV marketplace?

- **Promote the Value Proposition as a Transportation Fuel**

- Economics, environmental benefits, energy security, & abundance
- MD and HD fleets / high fuel users are the near-term opportunity
- LD remains key – infrastructure paves the way for consumers

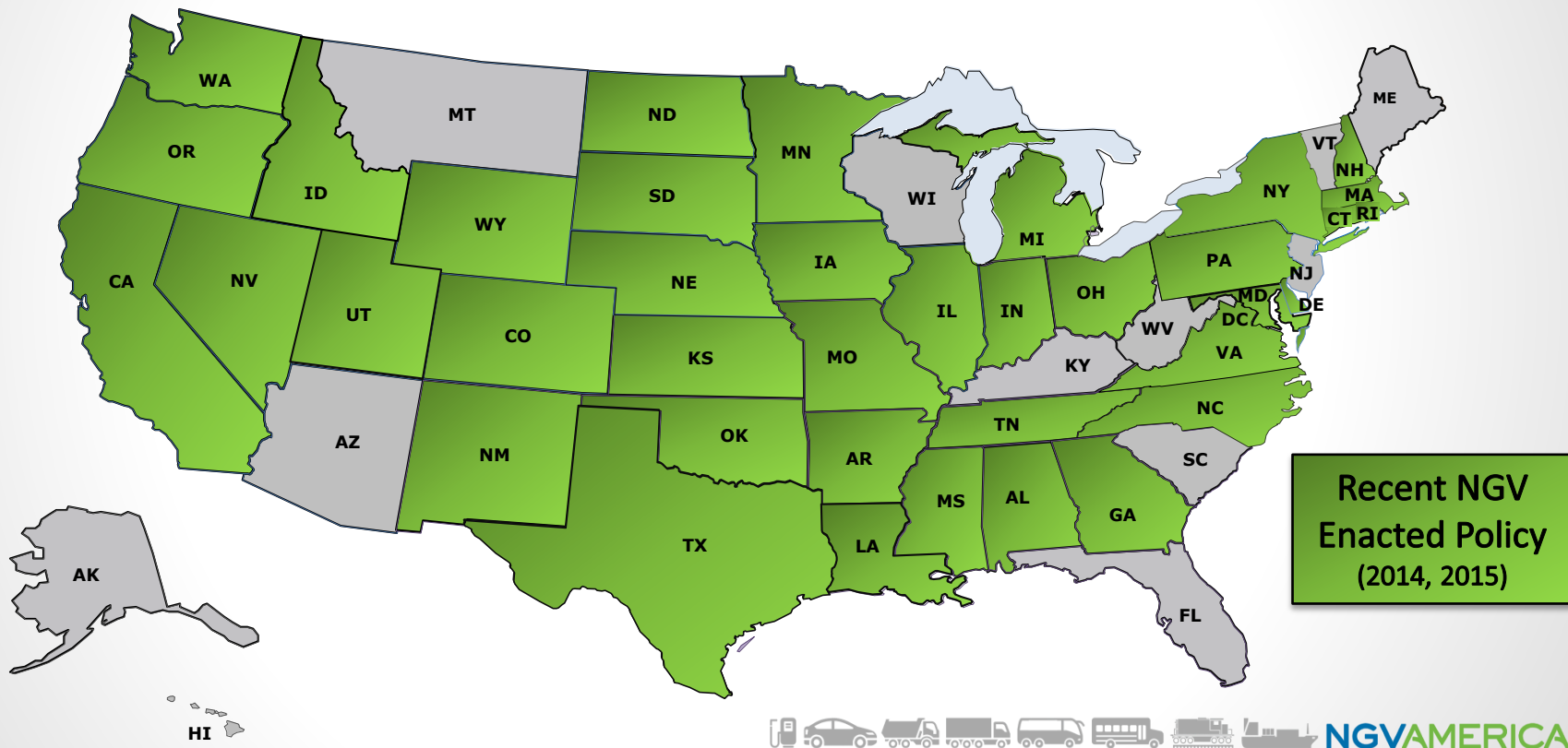
- **States & Federal Policymakers Must Lead the Way**

- Incentives, equal treatment, RD&D, CMAQ, market participant, implementation plans to meet new ozone rules, etc.

- **Innovation & Technology**

- Low emission/higher efficiency engines/vehicles, RNG, conformable tanks, home refueling, etc.

States are Where the Action is...



State NGV Policy Options

What can states do to promote NGVs?

- Vehicle purchase grants or tax incentives
- Fuel station grants or tax incentives
- Sales & use tax exemptions
- Motor fuel tax preferential or equal treatment
- HOV lane access
- Method of sale
- Weight exemption
- Market participant



NGV America – Taking Action

NGVA State Government Advocacy Committee

Objective – To promote the growth of CNG or LNG powered vehicle uses by influencing state level government legislation, regulation and administrative policies.

- 6 Regions with Co-chairs
- Prioritization of policy and regulatory needs by state
- Action oriented
- **Local/regional members networking with local groups including the NM NGV Coalition**



Regions

Northeast (NE)

CT, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VT, WV, DC

Southeast (SE)

FL, GA, KY, NC, SC, TN, VA

Midwest (MW)

IA, IN, IL, KS, MI, MN, MO, NE, OH, SD, WI

Gulf /South (GS)

AL, AR, LA, MS, NM, OK, TX

Rocky Mountain (RM)

CO, ID, MT, ND, UT, WY

West Coast (WC)

AK, AZ, CA, HI, NV, OR, WA

44 Member Companies

- Fleets
- Industry Groups
- LDCs / Utilities
- NG Producers
- Stations / Fuel
- Vehicles / Engines

107 Individual Members

2014 Success / 2015 – 270 Proposed (as of Oct 2015)

Incentives Vehicles / Stations	Fleet Purchase Provisions	EE for Excise Tax, MoS, or other	No Sales Tax on Incremental Cost/Equipment	Weight Limit (2000 lbs.)
✓ 2014 Passed - 7	✓ 2014 Passed - 6	✓ 2014 Passed - 18	✓ 2014 Passed - 2	✓ 2014 Passed - 3
CA, CO, DC, GA, IL, MO, NY	IL, MN, RI, TN, UT, VA	AL, CA, CT, IA, IL, IN, KS, MO, MS, NC, NE, NH, NM, NY, OR, SD, WA, WY	CO, NE	IL, OH, VA
✓ 2015 Passed – 7	✓ 2015 Passed - 2	✓ 2015 Passed - 10	✓ 2015 Passed - 0	✓ 2015 Passed - 1
AR, IN, LA, NE, NY, UT, WA	OH, OK	CA, CO, ID, LA, MS, ND, NV, OK, TN, UT		OH
2015 Proposed – 25	2015 Proposed – 11	2015 Proposed – 18	2015 Proposed -6	2015 Proposed - 5
Vehicles – CA, FL, GA, IN, LA, MA, MN, MO, MS, MT, NC, ND, NE, NM, NY, OH, OR, UT, SC, TX, WA Stations – AR, CA, GA, IA, LA, MA, MN, MS, NC, ND, NE, NY, OK, OR, RI, SC, UT, TX	FL, IL, IN, MO, MS, NY, OH, OK, OR, TX, UT	EE – AL, AR, CO, ID, IL, LA, MI, MN, NV, ND, SC, UT Method of Sale - CA, CO, IL, MA, MS, OK, SC, TN	CA, HI, NM, NY, SC, WA	MO, ND, OH, PA, SC

GGE/DGE Tax & Method of Sale Status

	AL	AR	CA	CO	CT	FL	GA	IA	ID	IL	IN	KS	KY	LA	MA	ME	MI	MN	MO	MS	NE	NH	NM	NV	NC	ND	OH	OK	PA	SC	SD	TX	TN	UT	VA	WV	WY
CNG GGE Tax	√	P	√	√	√	√		√	P, √	√	√	√	√	√		√	P	P	√	√	√	√	√	√	√		P (DGE)	√	√	√	√	√	√	√	√	√	√
LNG DGE Tax	√	P	√	√		√	√	√	P, √	P	√	√	√	√	P, √		√	P		√	√	√	√	P, √	√	P, √	√	√		P		√	√	P, √			√
DGE Method of Sale	√	√	√	√			R, √			P					P				√	P, √			R, √					P, R, √		P			P, √				

P - Legislative Proposal

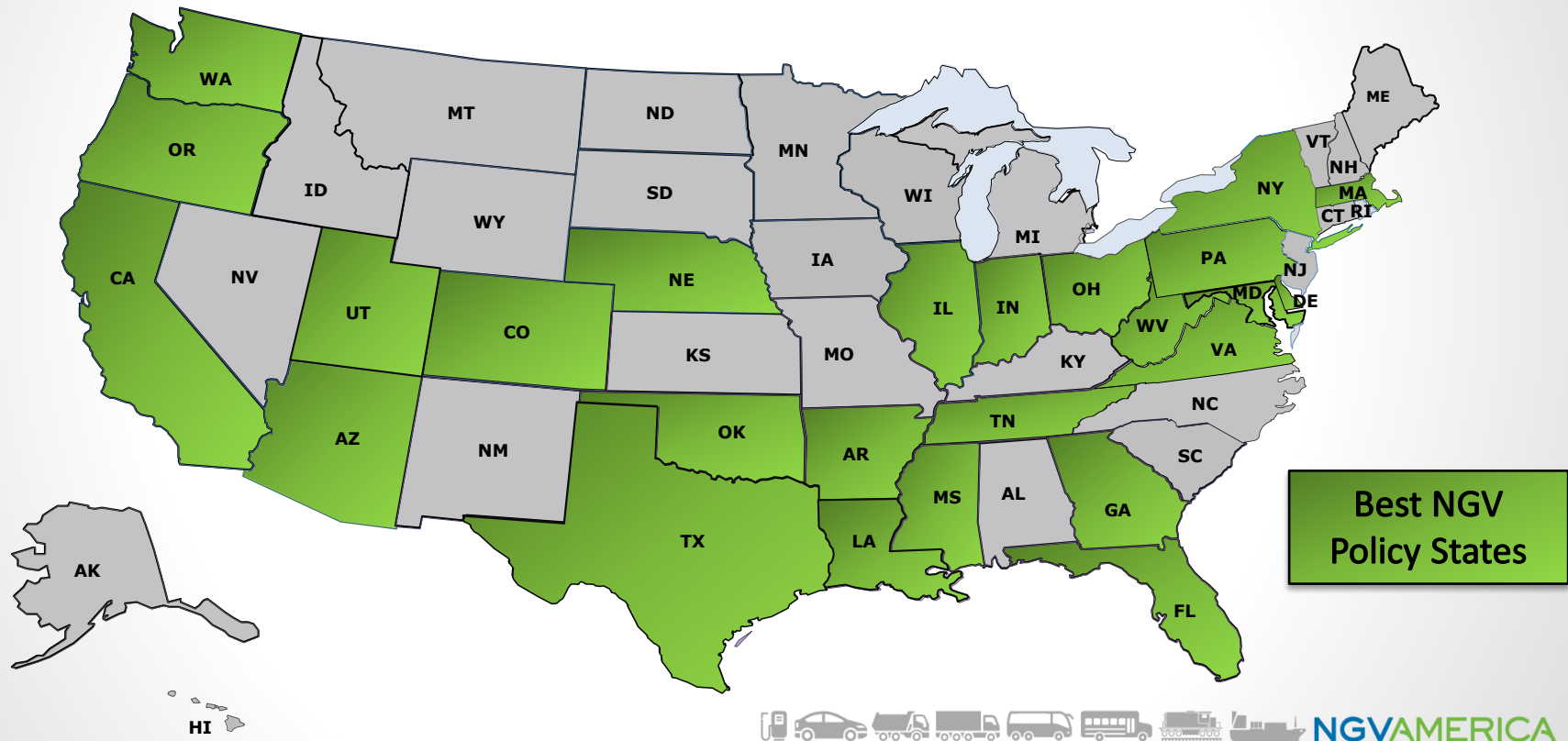
R - Rulemaking

√ - In-Place

**July 2015 – National Conference on
Weights and Measures again split
vote on a DGE National Standard**

	In Place	2015 Proposed
CNG GGE Tax	30	4
CNG DGE Tax		1
LNG DGE Tax	26	9
LNG GGE Tax	12	
LNG Gallon Tax	8	
DGE Method of Sale	10	8
GGE Method of Sale	50	

States Leading the Way for NGVs



Leading NGV States

	AZ	AR	CA	CO	DE	FL	GA	IL	IN	LA	MA	MD	MS	NE	NY	OH	OK	OR	PA	TN	TX	UT	VA	WA	WV
Fueling Infrastructure Tax Credits			X							X					X		X	X							X
Vehicle Tax Credits			X	X			X		X	X				X			X	X				X		X	X
Sales Tax	X			X																X				X	
Motor Fuel Tax Rates	X	X	X	X		X	X	X	X	X			X	X	X	X	X		X	X	X	X	X		X
AFV Mandates/Goals	X		X	X				X		X	X					X	X			X	X	X			X
Grant Funding		X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X		X	X	X		X
Weight Exemption				X				X	X							X							X		
NGV MOU Participant		Yes		Yes						Yes			Yes			Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes
# Stations* Oct 2015	46	20	371	52	1	64	53	56	39	32	23	16	9	13	99	67	123	22	88	25	160	102	26	29	3

* DOE AFDC Existing and Planned CNG & LNG Stations (Oct 2015) – 1952 total stations

* 152,300 NGVs per NGV America (2015)

Texas – Successful NGV Policy

Policy

2011

- Texas Clean Transportation Triangle initiated
- \$20M vehicle & station grant funding from the Texas Emissions Reduction Plan (TERP)
 - Fleet focused – Heavy/Medium duty
 - Stations - \$400K CNG or LNG / \$600K LCNG

2013

- AFV Rebates - \$2500 for Light Duty (< 9600 lbs.)
- Reduced CNG/LNG highway excise tax by \$0.05
 - \$0.15 CNG GGE (5.66 lbs.)/LNG DGE (6.06 lbs.)

Texas Gas Service – NGV and fueling grants

Success

March 4, 2015 – San Antonio Express News Article

- \$52.9M investment by state produced:
 - Additional \$79.1M in gross state product
 - 927 new full time jobs

April 2015 Success Status from TX RRC

- 7800 Vehicles have been purchased/converted
- 130 Stations (77 public; 53 private; 42 planned)

Public and private sectors working together to create jobs and reduce air emissions



Florida – Successful NGV Policy

Policy

2013

- Vehicle Grants
 - 50% incremental cost up to \$25,000
 - Government or Commercial
- No CNG/LNG excise tax for 5 years (until 1/1/2019)
 - \$0.05 based on GGE and DGE in 2019
- Local Governments may provide loans, grants and rebates for infrastructure
- Utilities allowed to own stations that are open to the public

Success

October 2014 – Fishkind & Associates Study

- \$4.7M investment by state produced:
 - \$91.5M construction spending
 - \$204.5M total economic output
 - 1,820 jobs / \$68M earnings
 - 61 stations (29+ planned)

September 2015

- \$8.9M rebates
- 841 vehicles

Public and private sectors working together to create jobs and reduce air emissions



Colorado – Successful NGV Policy

Legislation

2013 – HB 1110

- Excise Tax Reduced and CNG GGE / LNG DGE

2013 – HB 1247

- Up to \$6,000 in tax credits

2014 – HB 1326

- Up to \$20,000 for heavy duty trucks
- Sales tax exemption for MD and HD
- Partial weight exemption (1,000 lbs.)
- Specific ownership tax reduction for HD

New OEM Natural Gas, Propane, or Hydrogen Vehicles	Income tax year commencing:					Credit cap by vehicle class
	1/1/2014 1/1/2015 1/1/2016	1/1/2017 1/1/2018	1/1/2019	1/1/2020	1/1/2021	
Light duty passenger vehicle	18%	15%	11.25%	7.5%	3.75%	\$6,000
Light duty truck	18%	15%	11.25%	7.5%	3.75%	\$7,500
Medium duty truck	18%	15%	11.25%	7.5%	3.75%	\$15,000
Heavy duty truck	18%	15%	11.25%	7.5%	3.75%	\$20,000



Colorado – Successful NGV Policy

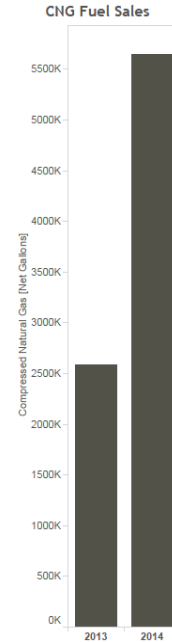
Administrative Policies

Natural Gas Vehicle MOU

- 16-State MOU / 23-State RFP
- Saved up to \$6,300 on NGV price
- Full-size CNG sedan and Half-ton pickup introduced
- Colorado purchased 233 NGVs in 2013/2014

2014 – Alt Fuels Colorado / \$30M in CMAQ Grant Funding

- Stations: \$15M
 - 80% equipment (\$500,000 per station)
- Vehicles - \$15M
 - 80% incremental cost (caps by class)



Success

CNG Sales Growth

- 2013: 2.5 million GGE
- 2014: 5.5 million GGE

Station Growth

- 16 public stations in 2014
- 15 funded through Alt Fuels Colorado

Public and private sectors working together to create jobs and reduce air emissions



NM Energy Policy & Implementation Plan

Seizing our Energy Potential:

Creating a More Diverse Economy in New Mexico



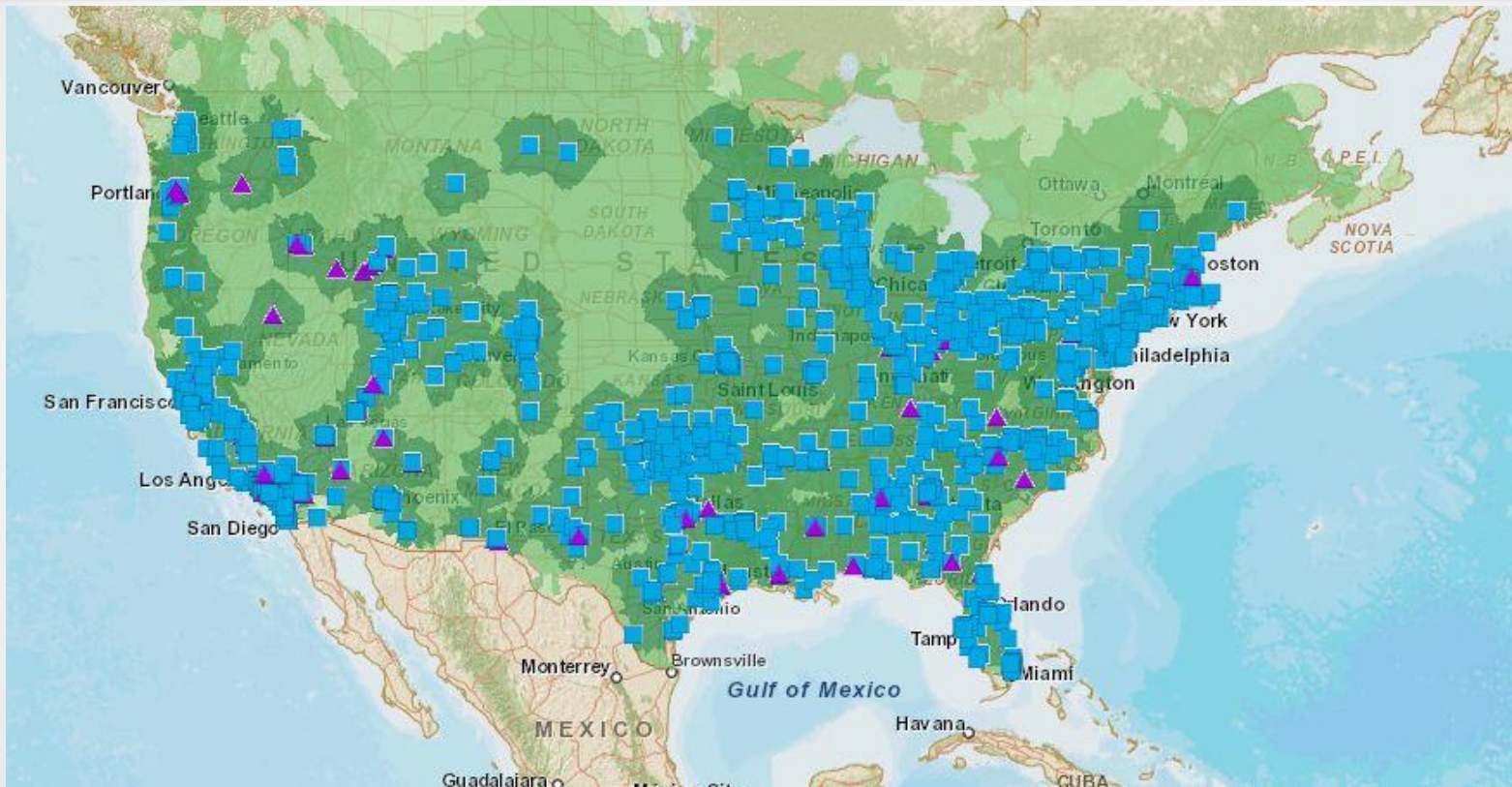
- **Natural Gas Market Enhancement**

- *“New Mexico has fallen behind neighboring states in NGV infrastructure and incentives and should explore the potential for NGV tax credits, vouchers, and the procurement of state vehicles.”*

- **Objective #2: Stimulate Energy Investment in New Mexico through Utilization of Abundant Natural Gas**

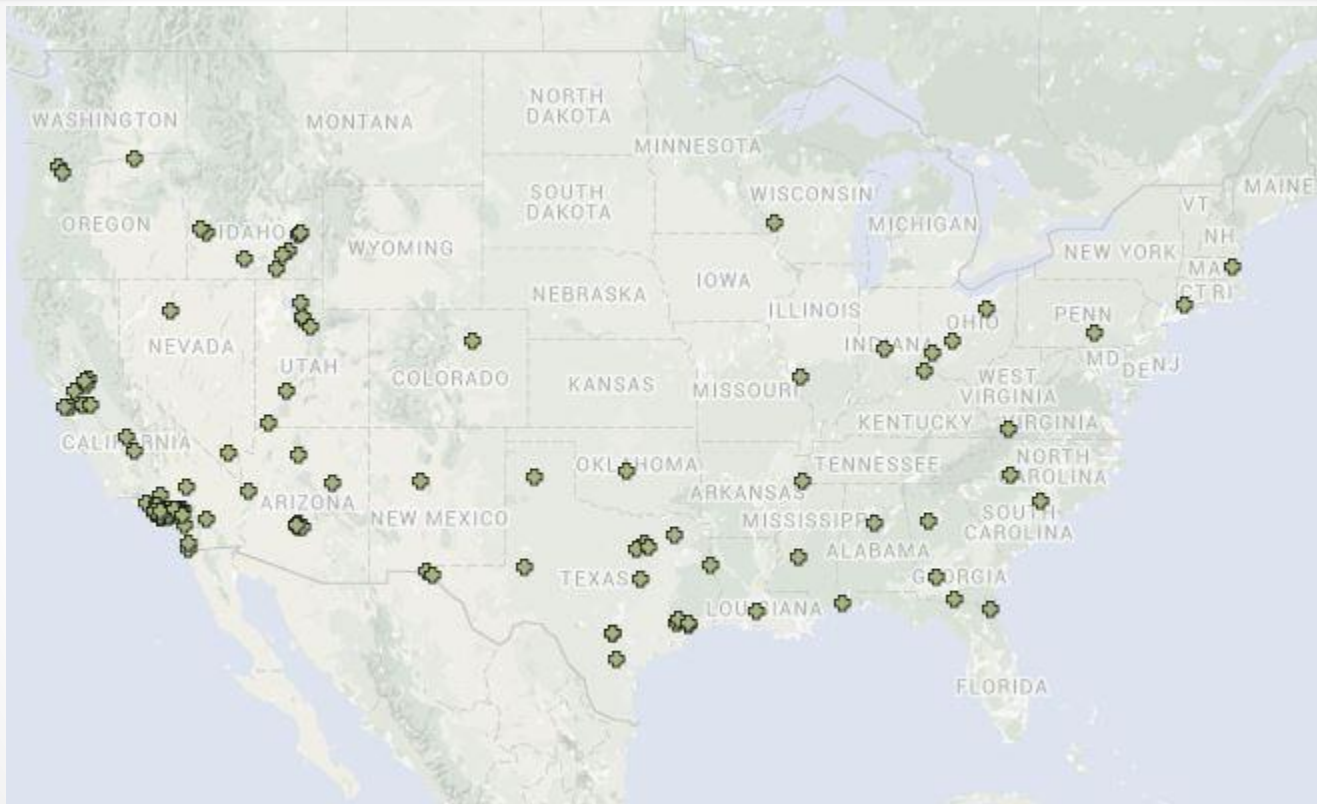
- Study natural gas vehicle incentives that are competitive with other states
- Encourage development of additional natural gas fueling stations

1950+ LNG and CNG Stations in the U.S.



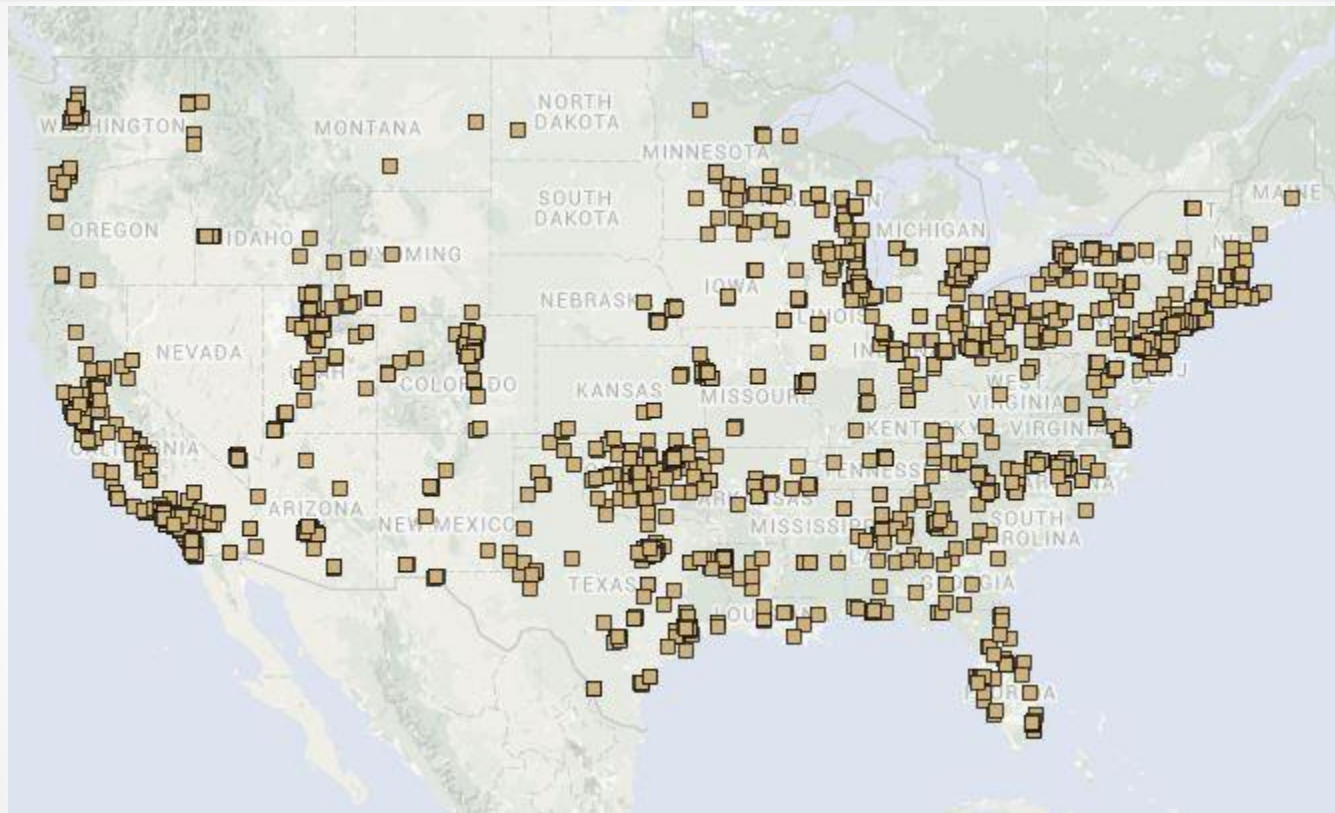
Source: EIA (<http://www.afdc.energy.gov/>)

Gaps in NM for the LNG Station Corridor



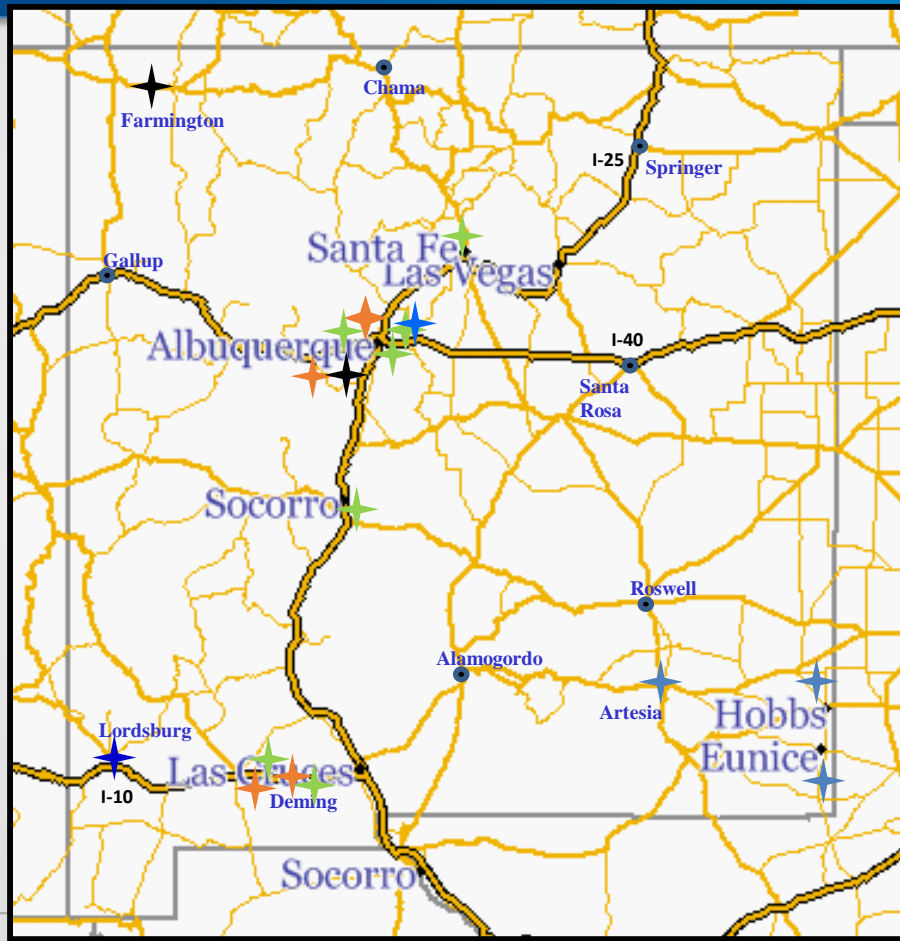
Source: EIA (<http://www.afdc.energy.gov/>)

Gaps in NM for the CNG Station Corridor



Source: EIA (<http://www.afdc.energy.gov/>)

New Mexico Natural Gas Fueling Stations



Problem – Less than 1000 NGVs in NM

16 CNG Stations

- ★ **7 Public** - Albuquerque (3), Deming (2), Santa Fe, Socorro
- ★ **3 Fleet** - Artesia, Eunice, Hobbs
- ★ **4 Private** - Albuquerque (2), Deming (2)
- ★ **2 Planned** – Albuquerque, Farmington

2 LNG Stations

- ★ **1 Public** - Albuquerque
- ★ **1 Planned** - Lordsburg

October 2015 Station Count

NM Natural Gas Market Growth – NGVs

What elements are needed to grow the NGV marketplace?

▪ **Promote the Value Proposition as a Transportation Fuel**

- Economics, environmental benefits, energy security, & abundance
- MD and HD fleets / high fuel users are the near-term opportunity
- LD remains key – infrastructure paves the way for consumers

▪ **NM States Policymakers Must Lead the Way**

- **Joint Legislative Memorial for value of NGVs to increase the use of natural gas in NM**
- **Investigate sources of incentive funding – CMAQ potential**
- Determine what type of vehicle incentives are possible & propose legislation
 - **Grants / Tax Credits**
 - No/Low Interest Loans
 - Vehicle Sales Tax Exemption
 - Weight Limit Exemption (2000 lbs.)



Natural Gas – From New Mexico, For New Mexico!



**abundant
fuel**



**reduced
emissions**



**lower
cost**



**energy
security**



NGVAMERICA

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